WHAT IS CLAIMED IS:

1. An optical receiving apparatus, comprising:

a photodetector for converting a signal light input received from an optical transmission line to an electrical signal;

a signal brancher for branching the electrical signal from the photodetector to a first electrical signal component and a second electrical signal component;

a discriminator for discriminating the first electrical signal component;

a clock extractor for extracting a clock having an amplitude from the second electrical signal component; and

a threshold controller for controlling a discrimination threshold of the discriminator according to the amplitude of the extracted clock, wherein the discriminator discriminates the first electrical signal component according to the discrimination threshold controlled by the threshold controller.

2. The optical receiving apparatus of claim 1, further comprising a first linear amplifier electricalally coupled between the photodetector and the signal brancher for amplifying the electrical signal from the photodetector.

3. The optical receiving apparatus of claim 1, further comprising a second linear amplifier electricalally coupled between the clock extractor and the threshold controller for amplifying the extracted clock.

4. The optical receiving apparatus of claim 1, wherein the signal brancher simultaneously applies the electrical

signal from the photodetector to the discriminator and the clock extractor.

5. The optical receiving apparatus of claim 1, wherein the signal brancher selectively applies the electrical signal from the photodetector to the discriminator and the clock extractor.

6. The optical receiving apparatus of claim 1, wherein the threshold controller is preprogrammed with information to indicate a relation between the clock amplitude and an optimum threshold.

7. An optical receiving apparatus, comprising:

an optical signal brancher for branching a signal light input received from an optical transmission line to a first optical signal component and a second optical signal component;

a first photodetector for converting the first optical signal component to a first electrical signal;

a second photodetector for converting the second optical signal component to a second electrical signal;

a discriminator for discriminating the first electrical signal;

a clock extractor for extracting a clock having an amplitude from the second electrical signal; and

a threshold controller for controlling a discrimination threshold of the discriminator according to the amplitude of the extracted clock, wherein the discriminator discriminates the first electrical signal according to the discrimination threshold controlled by the threshold controller.

8. The optical receiving apparatus of claim 7, further comprising a first linear amplifier electricalally coupled between the first photodetector and the discriminator for amplifying the first electrical signal from the first photodetector.

9. The optical receiving apparatus of claim 7, further comprising a second linear amplifier electricalally coupled between the clock extractor and the threshold controller for amplifying the extracted clock.

10. The optical receiving apparatus of claim 7, wherein the optical signal brancher simultaneously applies the signal light input to the first photodetector and the second photodetector.

11. The optical receiving apparatus of claim 7, wherein the optical signal brancher selectively applies the signal light input to the first photodetector and the second photodetector.

12. The optical receiving apparatus of claim 7, wherein the threshold controller is preprogrammed with information to indicate a relation between the clock amplitude and an optimum threshold.

13. An optical receiving apparatus, comprising:

a signal brancher for branching an optical input signal received from an optical transmission line to a first signal component and a second signal component;

a clock extractor for extracting a clock having an amplitude from the second signal component; and

a discriminator for discriminating the first signal component;

a threshold controller for controlling a discrimination threshold of the discriminator according to the amplitude of the extracted clock, wherein the threshold controller is preprogrammed with information to indicate a relation between the clock amplitude and an optimum threshold.

14. The optical receiving apparatus of claim 13, further comprising a photodetector coupled before the signal brancher for converting the optical input signal to an electrical input signal, wherein the signal brancher branches the electrical input signal from the photodetector to the first signal component and the second signal component.

15. The optical receiving apparatus of claim 14, further comprising a first linear amplifier electricalally coupled between the photodetector and the signal brancher for amplifying the electrical input signal.

16. The optical receiving apparatus of claim 14, further comprising a second linear amplifier electricalally coupled between the clock extractor and the threshold controller for amplifying the extracted clock.

17. The optical receiving apparatus of claim 13, further comprising a first photodetector for converting the first signal component to a first electrical signal to be input to the discriminator, and a second photodetector for converting the second signal component to a second electrical signal to be input to the clock extractor.

18. The optical receiving apparatus of claim 17, further comprising a first linear amplifier electricalally coupled between the first photodetector and the discriminator for amplifying the first electrical signal from the first photodetector.

19. The optical receiving apparatus of claim 17, further comprising a second linear amplifier electricalally coupled between the clock extractor and the threshold controller for amplifying the extracted clock.

20. An optical receiving apparatus, comprising:

a photodetector for converting an optical signal input from an optical transmission line to an electrical signal;

a clock extractor for extracting a clock from the electrical signal;

a threshold controller for determining a signal receiving discrimination threshold according to an amplitude of the extracted clock from the clock extractor; and

a discriminator for discriminating the electrical signal according to the signal receiving discrimination threshold determined by the threshold controller.

21. The optical receiving apparatus of claim 20, wherein the threshold controller includes information about clock amplitude versus threshold characteristics and determines the signal receiving discrimination threshold by collating an amplitude of the extracted clock from the clock extractor with the clock amplitude versus threshold characteristics.

22. The optical receiving apparatus of claim 20, further comprising a signal brancher for branching the electrical

signal from the photodetector to a first electrical signal component and a second electrical signal component;

23. The optical receiving apparatus of claim 22, wherein the signal brancher simultaneously applies the electrical signal from the photodetector to the discriminator and the clock extractor.

24. The optical receiving apparatus of claim 22, wherein the signal brancher selectively applies the electrical signal from the photodetector to the discriminator and the clock extractor.

25. An method for optical reception, comprising:

converting an optical signal input from an optical transmission line to an electrical signal;

extracting a clock from the electrical signal;

determining a signal receiving discrimination threshold according to an amplitude of the clock; and

discriminating the electrical signal according to the determined signal receiving discrimination threshold.

26. The method of claim 25 wherein the determining step of the signal receiving discrimination threshold is performed by collating an amplitude of the extracted clock with clock amplitude versus threshold characteristics.